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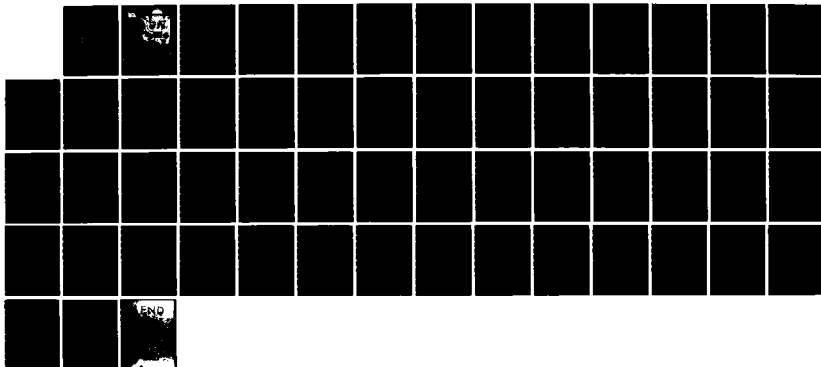
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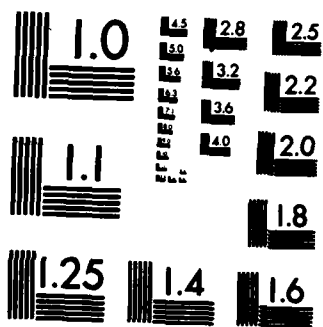
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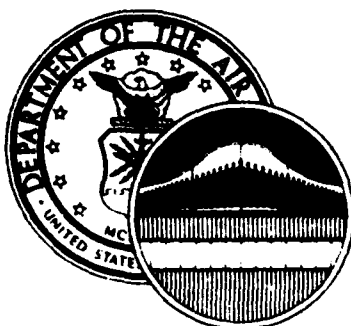
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UNITED STATES AIR FORCE

SPECIAL REPORT



PROFESSIONAL MILITARY EDUCATION - OFFICER

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PREFACE

↓ This report presents the results of an Air Force occupational survey of the leadership, management, and communicative tasks performed by Air Force officers. This survey was requested by HQ Air University to help validate and revise the curricula of officer precommissioning and postcommissioning professional military education (PME) courses. Authority for conducting occupational surveys is contained in AFR 35-2. ↗

The survey instruments were developed by Captain William E. Wimpee, Occupational Analyst, and computer programming support was furnished by Ms. Vera Frechel. Second Lieutenant John M. Bell, Occupational Analyst, analyzed the data and wrote the final report. The report has been reviewed and approved by Mr. J. S. Tartell, Chief, Management Applications Section, USAF Occupational Measurement Center.

The Occupational Survey Program within the Air Force has been in existence since 1956 when initial research was undertaken by the Air Force Human Resources Laboratory (AFHRL) to develop the methodology for conducting occupational surveys. In 1967, an operational survey program was established within Air Training Command to conduct occupational surveys of enlisted specialties. In late 1976, the program was expanded to include the survey of officer utilization fields, to permit special management applications projects, and to support interservice or joint service occupational analysis.

Copies of this report and computer outputs from which this report was produced are available to Air Staff sections, major commands, and other interested training and management personnel upon request to the USAF Occupational Measurement Center, Attention: Chief, Occupational Analysis Branch (OMY), Randolph AFB, Texas 78150-5000.

PAUL T. RINGENBACH, Colonel, USAF
Commander
USAF Occupational Measurement
Center

WALTER E. DRISKILL, Ph. D.
Chief, Occupational Analysis Branch
USAF Occupational Measurement
Center

OCCUPATIONAL SURVEY REPORT OFFICER PROFESSIONAL MILITARY EDUCATION

INTRODUCTION

The role of an Air Force officer, regardless of the technical specialty, traditionally has included responsibilities as a leader and manager. To ensure that its officers will have the skills to carry out these leadership and managerial responsibilities, the Air Force provides a variety of precommissioning and postcommissioning Professional Military Education (PME) courses that can be taken at specific career points. To determine whether these courses are truly responsive to the needs of USAF personnel, the Air War College requested that the USAF Occupational Measurement Center (USAFOMC) conduct an occupational survey that would help validate or redesign the curricula of officer PME courses. The request was coordinated with other Air University (AU) offices and approved by the Commander of AU. Specifically, USAFOMC was asked to determine leadership, management, and communicative tasks performed by company and field grade officers, and to determine the need of, or benefit from, the various PME schools and courses.

A similar study was conducted with officers by the Air Force Human Resources Laboratory (AFHRL) in the 1960s (Morsh, AFHRL-TR-69-38, December 1969). In addition, USAFOMC completed a study of enlisted PME curricula in 1979 (Occupational Survey Report, AFPT 90-000-346, March 1980), and officer PME curricula in 1980 (Occupational Survey Report, AFPT 90-000-346, August 1980). These studies provided a basis for both the Air University requests and for the current project methodology. The methodology for the officer survey report consisted of: (1) developing a list of the general leadership, management, and communicative tasks performed by Air Force officers across all career fields and a list of the major curriculum topics in PME courses (for use in the five USAF Job Inventories discussed later); (2) surveying a large sample of officers; and (3) analyzing the data and presenting information to curriculum decisionmakers. These decisionmakers can then determine if the needs for various leadership, management, or communicative skills (as indicated by task performance data) are being met by the curriculum objectives of each of the PME courses.

Development of the Survey Instruments

To gather the data necessary for curriculum validation, two types of survey instruments were developed--one for capturing the task-related data and one for rating the PME topics. In developing the survey instruments, USAFOMC used the same basic approach that has proved successful in the USAF airman and officer occupational survey programs.

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The lists of tasks and curriculum topics used in the 1980 officer PME were reviewed by representatives from AU, each PME school--Squadron Officer School (SOS), Air Command and Staff College (ACSC), and Air War College (AWC)--and ROTC at Maxwell AFB, Alabama. The lists were evaluated for accuracy, clarity, and comprehensiveness. Recommendations from these reviews were then considered during two validation conferences (31 March-1 April 1982 and 23-24 August 1982 at Maxwell AFB), at which representatives of USAFOMC and AU agencies put the task inventory into its final form. A series of "background" questions relating to the respondents' demographic status, PME experience, and work environment was prepared so this information could be used in conjunction with the task and curriculum topic data for group comparisons. In addition, the scales used to record responses in the curriculum topics inventories were revised by USAFOMC to provide anchored scales. All participant agencies made a final review of the lists before the results of the development effort were printed in five separate survey booklets described below.

Task List. The major part of the survey data was gathered via a USAF Job Inventory containing a list of 347 leadership, management, and communicative tasks under 14 duty headings. These tasks were to be rated by survey respondents on a 9-point scale according to the relative amount of time spent on each task, compared to the time spent on each of the other leadership, management, and communicative tasks they performed. The scale read as follows:

- | | |
|---|------------------------|
| 1 | Very small amount |
| 2 | Much below average |
| 3 | Below average |
| 4 | Slightly below average |
| 5 | About average |
| 6 | Slightly above average |
| 7 | Above average |
| 8 | Much above average |
| 9 | Very large amount |

These time spent ratings are used with task inventories that are considered to capture 100 percent of the respondent's job. Because this particular task inventory only captured leadership, management, and communicative tasks, respondents were asked, at the end of the task list, to estimate the percentage of their total job time that is spent on the tasks they rated.

Task Difficulty. Data on the difficulty of the same leadership, management, and communicative tasks discussed above were collected via a Task Difficulty booklet. Difficulty was defined as "the amount of time needed to learn to do each task satisfactorily." Respondents were asked to rate each task on the following 9-point scale according to its relative difficulty, compared to the other tasks.

- | | |
|---|---------------|
| 1 | Extremely low |
| 2 | Very low |
| 3 | Low |
| 4 | Below average |

- 5 Average
- 6 Above average
- 7 High
- 8 Very high
- 9 Extremely high

Education Emphasis. Using an inventory with the same leadership, management, and communicative tasks discussed above, respondents were asked to rate each task on the following 10-point scale according to its need in Air Force educational programs.

- | | |
|-------|-----------------------------------|
| Blank | No Education Emphasis Needed |
| 1 | Extremely low education emphasis |
| 2 | Very low education emphasis |
| 3 | Low education emphasis |
| 4 | Below average education emphasis |
| 5 | Average education emphasis |
| 6 | Above average education emphasis |
| 7 | High education emphasis |
| 8 | Very high education emphasis |
| 9 | Extremely high education emphasis |

Curriculum Topics I. Another important set of data was collected via a USAF Job Inventory containing a list of 275 topics from the curricula of officer PME courses. For each of these topics, respondents were asked to rate the extent to which knowledge of, or skill in, each topic was necessary to perform their present job (need-in-job). An 8-point scale, which follows, was used to rate the topics.

- 1 None
- 2 Minimal need
- 3 Very small need
- 4 Small Need
- 5 Moderate Need
- 6 Large Need
- 7 Very Large Need
- 8 Maximal Need

Curriculum Topics II. Using the same list of topics discussed above, respondents to this booklet were asked to rate the extent to which knowledge of, or skill in, each topic was necessary to function as a professional career officer (need-in-career). The 8-point scale used in the Curriculum Topics I booklet was also used in the Topics II booklet.

Administration of Surveys

Random samples were selected for administration of the five inventories. For the Curriculum Topics booklets, samples were selected to include a wide variety of utilization fields and to obtain a representative sample based on rank and major command (MAJCOM). Raters selected to complete the Task List inventories were representative of MAJCOMs, and relatively equal in number across all ranks. Raters to complete Education Emphasis and Task Difficulty booklets were also randomly selected but, because of the nature of these surveys, were limited to a much smaller number and relatively equal size groups across ranks.

The survey booklets were administered through consolidated base personnel offices (CBPO) worldwide between June 1983 and April 1984. Table 1 provides information as to size and rates of returns of the surveys. Tables 2 and 3 show the degree to which the survey objectives of representative samples were achieved.

TABLE 1
OFFICER PME SAMPLE SIZES AND RETURN RATES

<u>SURVEY INSTRUMENT</u>	<u>NUMBER ADMINISTERED</u>	<u>USABLE</u>	
		<u>NUMBER</u>	<u>PERCENT</u>
TASK LIST	3,638	2,016	55
TASK DIFFICULTY	584	312	53
EDUCATION EMPHASIS	598	316	53
CURRICULUM TOPICS I	6,742	4,100	61
CURRICULUM TOPICS II	6,384	3,863	61

TABLE 2
**RANK DISTRIBUTION
(PERCENTAGE)**

<u>RANK</u>	<u>USAF ACTIVE-DUTY*</u>	<u>CURRICULUM TOPICS I</u>	<u>CURRICULUM TOPICS II</u>
SECOND LIEUTENANT	13	8	8
FIRST LIEUTENANT	15	16	16
CAPTAIN	37	35	37
MAJOR	18	19	19
LIEUTENANT COLONEL	12	14	13
COLONEL	<u>5</u>	<u>8</u>	<u>7</u>
TOTAL	100	100	100

* Figures as of 30 September 1983

TABLE 3
MAJCOM DISTRIBUTION (PERCENTAGE)

<u>MAJCOM (CODE)</u>		<u>USAF ACTIVE-DUTY*</u>	<u>TASK LIST</u>	<u>CURRICULUM TOPICS I</u>	<u>CURRICULUM TOPICS II</u>
SAC	(OS)	17	17	17	18
TAC	(OT)	14	13	13	11
MAC	(OQ)	12	11	12	11
ATC	(OJ)	12	6	7	6
AFSC	(OH)	11	12	10	10
USAFE	(OD)	7	7	8	9
AFCC	(OY)	3	4	4	4
PACAF	(OR)	3	3	3	4
AFLC	(OF)	3	3	3	2
HQ USAF	(ON)	2	4	4	5
SPACECMD	(OZ)	2	2	2	2
USAFA	(OB)	1	1	2	2
ESC	(OU)	1	2	2	2
AAC	(OA)	1	1	1	1
DOD	(X2)	**	3	2	2
OTHER		11	11	10	12

* Figures as of 31 March 1984

** Percentage not available

ANALYSIS OF LEADERSHIP, MANAGEMENT, AND COMMUNICATIVE TASK INVOLVEMENT

Since the various officer PME programs are geared to the needs of officers at distinct phases in their careers, and these phases are primarily designed by rank, the Leadership, Management, and Communicative (LMC) task responses were analyzed by the percentage of each officer rank that performs each task. Further analyses looked at the differences across utilization fields within the same ranks. Finally, analyses of the task performance across utilization fields, regardless of rank, across commissioning sources, across ratings, and across supervisory groups were undertaken to determine differences in LMC tasks performed. A list of the specialties comprising the utilization fields in this study is shown in Appendix A.

According to Air Training Command guidelines (as outlined in ATCR 52-22), performance of a task by 50 percent or more of a group indicates that some formal training on the task may be necessary. Performance of a task by 30-49 percent of the members of a group indicates that the task might be considered for some type of background or fundamental training. Although these guidelines are designed for technical training decisions, in the data analysis these 30 and 50 percent figures were used as indicators of a significant extent of task performance.

Background data for the ranks are displayed in Table 5. Through the analysis of these data, a pattern emerged showing increasing involvement in LMC tasks as officers increased in rank from lieutenant to colonel (from only 125 tasks performed by over 30 percent of the lieutenants and 260 performed by over 30 percent of the colonels). Supporting this pattern is data that showed the percentages of officers who had supervisory responsibilities increased from 38 percent among lieutenants to 95 percent among colonels. Additionally, the percentage of total job time spent on the LMC tasks in the job inventory increased from 56 percent to 81 percent, from lieutenant to colonel, respectively. Related to these is the organizational assignment pattern, which showed the manner in which the percentage of officers assigned to organizational levels increased as rank increased.

This pattern of increasing involvement in LMC tasks is not surprising, but it does illustrate the changing nature of most officers' responsibilities. Further, it provides some rationale for a continuing multiphased professional development program. The following paragraphs provide some general insight into the specific needs at the various levels and discuss varying needs of officers at the same ranks. The analysis extract provides a comparative listing of task involvement across rank groups, as well as listings of tasks performed by 30 percent or more of the respondents at each rank.

Lieutenants' LMC Tasks

Second and first lieutenants reported the least involvement in LMC tasks, based on the percentages of lieutenants performing the tasks, the number of tasks performed, and the overall amount of time devoted to LMC tasks. The data showed relatively little difference in LMC activity between second lieutenant and first lieutenant, and those ranks are analyzed together in this section of the report. Most of the members were assigned at the group level or below, and only one-third supervise.

Little more than half of their job time was spent on LMC tasks. Of those tasks, only 30 were being performed by 50 percent or more of the lieutenants; another 95 were being performed by 30 to 49 percent. The areas of high involvement included communicating tasks, which accounted for over half of the tasks performed by most of the lieutenants. Specifically, the tasks involved receiving and transmitting information, such as reading technical reports, professional publications, and correspondence; drafting or writing memos, letters, and short-note replies; and providing oral information to subordinates, peers, and superordinates. A number of the motivating tasks were performed by 30 percent or more of the group, most of which involve the communicating skills inherent in the tasks above. These included such things as providing informal positive and negative feedback, establishing working relationships with personnel from outside organizations, and soliciting job-related ideas, suggestions, or feedback from subordinates. Approximately one-third to one-half of the lieutenants were involved in planning activities, which included formulating alternative methods or procedures for current activities, coordinating plans or proposals, determining resources, and establishing or adjusting priorities. Most of the personnel in this group also attended training sessions to maintain or upgrade their job proficiency, skills, or knowledges, and to meet general military requirements.

Differences in the utilization field's task involvement among lieutenants were apparent. Most noticeable was the absence of communicating task involvement among those operationally assigned, with few drafting or writing reports, letters, memos, or other correspondence. The greatest degree of involvement across LMC tasks was seen among lieutenants in the logistics field; in that area, personnel were involved in not only those tasks typical of most lieutenants, but also more responsibilities in duties such as counseling, maintaining discipline, planning, evaluating, and controlling. To a slightly less extent, this was also true for the personnel resources field. Because of the few lieutenants in the legal, chaplain, and medical utilization fields, task involvement comparisons of these fields was not meaningful.

Captains' LMC Tasks

According to the background data, the overall LMC task involvement of captains was somewhat higher than that of lieutenants, with the number of tasks performed by over 50 percent of these captains nearly twice the number of those of lieutenants. Still, however, the total number of tasks performed by over 30 percent increased by only 24 and still fewer than half supervised. At this point in these officers' careers, there was a movement from the group

level or below (where two-thirds of the lieutenants served) to the wing level or above (where nearly half of the captains are assigned).

In terms of individual task involvement, all tasks performed by at least 30 percent of the lieutenants were performed by slightly greater percentages of the captains. Additionally, 34 tasks were added to the list of those performed by at least 30 percent, with most of those moving up from the range of 20 to 30 percent performance by lieutenants, to 30 to 40 percent performed by captains, a relatively small percentage increase. The resulting task involvement included a major emphasis on communicating tasks, with some captains conducting their own staff meetings, chairing conferences and meetings, drafting or writing officer effectiveness reports or suggested indorsements, and preparing or delivering staff briefings. Small percentage increases were reflected in the numbers of captains participating in motivating (reflected in communicating tasks and increased supervisory responsibilities), planning, and controlling. The only areas of less task involvement than among lieutenants were in attending training sessions and educational programs, a trend that continues as the rank of the officer increases. In short, LMC task involvement increased across a number of tasks at this rank, but generally by small percentages.

Differences in the LMC task involvement of captains among the various utilization fields were fewer than for lieutenants between fields. The most noticeable differences were the low percentages of performance by some fields in tasks indicative of supervisory responsibilities. Operations, scientific-engineering, and legal officers as captains, for example, perform certain supervisory-related tasks in all duties with less frequency than the other groups, perhaps indicative of fewer supervisory opportunities at that rank in those fields. Another difference seen was the greater involvement of captains in the legal field in the maintaining discipline duty area, but less involvement in planning tasks. Captains in the SP-OSI field showed higher percentages of involvement in the inspecting and evaluating, training, and placement tasks. Captains assigned to the civil engineering utilization field showed very little involvement in attending educational programs and training sessions during duty time, tasks with very high percentages for lieutenants and captains as a whole.

Majors' LMC Tasks

The step from captain to major represents a significant step in terms of LMC task involvement. With nearly two-thirds of the majors supervising, the number of tasks performed by over 50 percent doubles and all LMC tasks account for over 70 percent of their job time. Over one-third hold positions at MAJCOM headquarters or higher.

Forty-five more tasks were performed by at least 30 percent of the majors than by the captains; 61 more tasks were performed by at least 50 percent. Among those tasks whose involvement increased to over half of the majors were drafting or writing APRs and OERs or suggested indorsements; preparing or delivering staff briefings; chairing conferences, committees, or panels; and counseling subordinates. Additionally, a number of tasks from the planning duty received greater involvement by this group, such as determining

resources, scheduling personnel, and setting or adjusting goals or objectives. A greater percentage of officers at this rank were involved in maintaining morale, health, and welfare of subordinates, and some became involved at this point in selecting other personnel for new or vacant positions, screening records for placement or reassignment purposes, and evaluating civilian personnel.

Some, though increasingly fewer, differences in LMC task involvement among majors were apparent. Those officers in the legal field responded in a higher percentage to tasks in the maintaining discipline duty than did majors in other fields. At the same time, majors in the intelligence-cartography-geodesy fields were less apt to be involved in motivating and maintaining morale, health, and welfare tasks than their peers. Chaplains at this rank were least involved in inspecting and investigating. All fields remained high in communicating tasks.

Lieutenant Colonels' LMC Tasks

The background data for lieutenant colonels indicated the smallest proportional increase in the number of tasks performed by 50 percent or more of the personnel, only 27 percent more than majors typically performed. Their percent of job time on LMC tasks was only slightly higher, and there was a decrease in the percentage of lieutenant colonels assigned to MAJCOM headquarters positions or higher. The supervisory percentage increased 10 percent.

One major area of increasing responsibility among the lieutenant colonels was the greater involvement with civilian personnel and their affairs. Examples of tasks where increases were seen are reviewing, editing, and endorsing civilian performance appraisals; counseling or advising civilian personnel on job or training performance; developing, revising, or drafting civilian performance standards, and drafting or writing recommendations for civilian awards or recognition. The majority of personnel at this rank reviewed, edited or drafted APRs and OERs; selected personnel for vacant or new positions; and represented their unit or organization at base social or ceremonial functions.

Few differences appeared across most utilization fields among lieutenant colonel respondents. Intelligence-cartography-geodesy officers differed from most others in the smaller percentages of those involved in most duties (communicating, motivating, maintaining morale, placement, organizing and directing, and controlling). Medical personnel also showed less involvement in controlling tasks and, again, legal officers were more involved in maintaining discipline.

Colonels' LMC Tasks

The officers who were in the colonel group spent the most time on LMC tasks, performed more of them at the 50 percent or above level, and all but 5 percent were supervising. This was the only group wherein more than half of the 347 tasks were performed by at least 50 percent of the incumbents.

In addition to the tasks performed by those of the lower ranks, colonels also performed a large number of tasks at the 50 percent level that other groups were performing below that level. The tasks distinguishing colonels from the other groups included counseling or advising civilian personnel on failure to maintain professional standards; defining or explaining standards expected of subordinates; analyzing, establishing, or adjusting organizational structures; and providing inputs to budget estimates. These personnel were also more visible off base than others, through speeches and representing the Air Force or their organization in community activities.

A comparison of LMC tasks performed by colonels across utilization fields showed fewer differences than for any other rank group; colonels across fields showed high and relatively uniform percentages in most LMC tasks.

Additional Groups' Tasks Comparisons

In addition to looking at tasks performed at each rank and those performed by various utilization fields within each paygrade group, several other group comparisons were made to determine possible differences in LMC task involvement between utilization fields as a whole, commissioning sources, ratings, and supervisory subgroups.

LMC task performance across utilization fields (regardless of rank) was analyzed to determine if major differences in LMC task involvement existed between fields. Some differences were seen in the task involvement of specific fields when compared to the sample as a whole. The average number of LMC tasks varied considerably, as seen in Table 6, with logistics personnel showing considerably more LMC tasks performed. These data correspond well with the percentage of time spent on LMC tasks from field to field, shown in Table 7. A comparison of these tables shows three fields (logistics, SP-OSI, and personnel resources) are high in both categories, and four fields (civil engineering, cartography-geodesy-intelligence, medical, and operations) are low in both. Table 8 shows the variation in the amount of time devoted to LMC tasks varies, both across utilization fields and paygrades, with differences less pronounced at the higher ranks.

All fields had the highest concentration of percent of LMC time performing communicating tasks (Duty A), ranging from cartography-geodesy-intelligence personnel (who spent over one-third of their relative LMC time in that duty) to SP-OSI (who spent less than one-quarter). Legal officers spend a much greater amount of time maintaining discipline (Duty C) than other fields; operations and medical officers spend far more time on training tasks (Duty F). This data is displayed in Table 9.

Additionally, some specific task involvement differences were seen across utilization fields. Many tasks showed high involvement in only some fields because the tasks were more closely related to the primary mission of those fields. For examples: a much higher percentage of chaplains prepared and delivered lectures than any other group of officers; more scientific and engineering officers evaluated contractor services or performance; more intelligence personnel classified, declassified, or recommended classification

or declassification of documents or materials. Other distinctions which may be explained, in part, by the primary mission of the fields included a heavier emphasis on maintaining discipline (Duty C) by legal officers; logistics, personnel resources, and SP-OSI personnel involved more in maintaining morale, health and welfare (Duty E) and motivating (Duty D), with legal and medical officers and chaplains also performing; and less planning (Duty J) involvement by operations officers. These examples point out that differences in LMC task involvement is only partially a function of the officer's rank. When looking at differences across utilization fields within paygrades, there are differences in officers' LMC task involvement based on the utilization field to which they are assigned.

An analysis of LMC task performance across commissioning sources did not identify areas of any great difference. Groups compared were those of USAF and other service academies graduates, Officer Candidate and Officer Training Schools graduates, ROTC graduates, and those who received direct commissions. Percentage differences between commissioning source groups were too small to consider meaningful, and relative percent time spent on duties across these groups was also nearly equal. Likewise, rated and nonrated groups were compared in terms of percentages of members performing LMC tasks and relative percent time among LMC duties, and no major differences were seen.

Supervisory and nonsupervisory officers were also compared. Table 10 highlights some of the major differences between these groups in terms of tasks performed. The relative percent of time spent on LMC tasks differs particularly in the communicating duty (officers supervising spending only one-quarter of their relative time, officers not supervising spending over one-third). Overall, 245 tasks are performed by 30 percent or more of the supervisory officers (149 by 50 percent or more), but only 90 tasks are performed at that level by nonsupervisors (only 28 by 50 percent or more).

Summary

To develop PME curricula, planners will, of course, look at data in addition to simply the tasks performed by more than 30 percent, or more than 50 percent, of the personnel in various grades. Some tasks performed by a relatively small percentage of a paygrade group may be deemed important enough to require attention in a corresponding PME course; other tasks performed by a relatively large percentage of respondents may require very little attention in a PME course. The survey data, however, provide insight as to the approximate point in an officer's career when the task is most likely performed and, thus, will be of most benefit to be covered in PME instruction.

The data clearly indicate an increasing emphasis across ranks from lieutenant to colonel in LMC tasks. Each rank clearly demonstrates a greater number of tasks being performed and more overall job time being spent in their performance. The greatest increase appears between captains and majors, even though the utilization field to which the officer is assigned will greatly influence the precise timing of increased LMC responsibilities.

Even in the diversity between fields and ranks discussed, there is a substantial amount of similarity in the LMC tasks performed across groups. For example, 27 tasks were performed by at least 50 percent of each rank, over

half of them being communicating tasks and six motivating tasks. Over one-third of the tasks (121) were performed by at least 30 percent at each rank. Further, while the number of tasks performed and the overall amount of time spent on them increases, the differences in relative time spent on tasks in each duty between ranks are very small. As Table 11 shows, the highest concentration of time across duties was in communicating, which represented about one-third of all groups' relative job time. Relatively high and equal time was devoted to motivating, controlling, organizing and directing, and planning. A decrease in time spent attending training sessions as one moves from lieutenant to colonel is the largest percentage change seen, and the drop was not surprising.

In addition to differences in LMC task involvement at various ranks, differences across utilization fields, both within ranks and across the total sample, and between supervisory and nonsupervisory groups were apparent. Curriculum developers must be aware of these differences, as well as others, to determine when, where, and how various LMC tasks should be most appropriately and effectively addressed in an officer's PME.

TABLE 5
SELECTED BACKGROUND DATA FOR RANK GROUPS

	PAYGRADES			
	LT	CAPT	MAJ	COL
NUMBER IN GROUP	605	389	343	319
PERCENT OF SAMPLE	30	19	17	16
PERCENT SUPERVISING	38	49	65	95

ORGANIZATIONAL LEVEL ASSIGNED (PERCENT*):				
DETACHMENT, FLIGHT, SQUADRON, GROUP, OR EQUIVALENT	68	51	35	17
WING, CENTER, NUMBERED AF, AIR DIVISION, OR EQUIVALENT	17	24	25	38
MAJCOM HQ, AIR STAFF, DOD, JCS, OR EQUIVALENT	12	22	37	43

NUMBER OF LMC TASKS WITH:				
50 PERCENT OR MORE PERFORMING	30	59	120	147
30 PERCENT OR MORE PERFORMING	125	159	204	260

PERCENT OF TOTAL JOB TIME ON LMC TASKS	56	62	71	74
				81

* Columns may not equal 100 percent due to nonresponse or rounding

TABLE 6

AVERAGE NUMBER OF LMC TASKS PERFORMED BY UTILIZATION FIELDS*

<u>UTILIZATION FIELDS (NUMBER OF RESPONDENTS)</u>	<u>AVERAGE NUMBER OF LMC TASKS PERFORMED</u>
LOGISTICS (200)	146
LEGAL (28)	141
SP-OSI (47)	140
PERSONNEL RESOURCES (188)	139
CHAPLAINS (19)	132
COMPTROLLER (38)	119
SCIENTIFIC-ENGINEERING (206)	113
INFORMATION SYSTEMS (149)	106
MEDICAL (231)	106
CIVIL ENGINEERING (47)	102
CARTOGRAPHY-GEODESY-INTELLIGENCE (65)	102
OPERATIONS (516)	95
PILOTS (258)	100
MISCELLANEOUS OPERATIONS (90)	97
NAVIGATORS (106)	92
MISSILEERS (61)	76

* The average number of LMC tasks performed by the total sample of 2,016 respondents was 119

TABLE 7

PERCENT TIME SPENT ON LMC TASKS BY UTILIZATION FIELDS*

<u>UTILIZATION FIELDS (NUMBER OF RESPONDENTS)</u>	<u>PERCENT TIME SPENT ON LMC TASKS</u>
SP-OSI (47)	77
LOGISTICS (200)	75
PERSONNEL RESOURCES (188)	71
SCIENTIFIC-ENGINEERING (206)	68
INFORMATION SYSTEMS (149)	67
CHAPLAINS (19)	67
CIVIL ENGINEERING (47)	65
COMPTROLLER (38)	65
CARTOGRAPHY-GEODESY-INTELLIGENCE (65)	64
LEGAL (28)	62
OPERATIONS (516)	61
MISCELLANEOUS OPERATIONS (90)	63
PILOTS (258)	62
MISSILEERS (61)	57
NAVIGATORS (106)	56
MEDICAL (231)	51

* The percent time spent on LMC tasks by the total sample of 2,016 respondents was 67

TABLE 8

**TOTAL LMC TASK PERCENT TIME COMPARISONS AMONG
UTILIZATION FIELDS AND RANK**

<u>UTILIZATION FIELD</u>	<u>TOTAL LMC TASK PERCENT TIME BY RANK</u>				
	<u>LT</u>	<u>CAPT</u>	<u>MAJ</u>	<u>LTC</u>	<u>COL</u>
OPERATIONS	46	59	70	73	78
SCIENTIFIC-ENGINEERING	59	69	66	77	84
INFORMATION SYSTEMS	54	71	84	86	89
LOGISTICS	71	67	77	83	81
CIVIL ENGINEERING	48	81	70	95	90
CARTOGRAPHY-GEODESY-INTELLIGENCE	58	62	68	64	89
COMPTROLLER	52	70	77	75	60
PERSONNEL RESOURCES	65	72	77	73	81
SP-OSI	68	88	71	85	83
LEGAL	*	59	55	62	71
CHAPLAINS	*	68	71	60	76
MEDICAL	51	31	52	55	65

* No response in that utilization field at that paygrade

TABLE 9

RELATIVE PERCENT TIME SPENT ON LMC DUTIES BY UTILIZATION FIELDS

<u>DUTY</u>	<u>OPS</u>	<u>SCI-ENG</u>	<u>INFO</u>	<u>LOG</u>	<u>CE</u>	<u>INTEL</u>	<u>COMPT</u>	<u>PERS</u>	<u>SP-OSI</u>	<u>LEGAL</u>	<u>CHAP</u>	<u>MED</u>
A COMMUNICATING	30	34	32	27	33	36	34	29	24	35	25	27
B COUNSELING	2	2	1	3	2	2	2	3	4	3	3	3
C MAINTAINING DISCIPLINE	1	1	2	2	1	1	2	3	4	11	1	2
D MOTIVATING	12	9	11	12	10	11	11	12	14	9	16	13
E MAINTAINING MORALE, HEALTH, AND WELFARE	3	2	2	3	2	3	3	3	4	3	4	3
F TRAINING	11	4	5	4	4	5	5	5	5	2	4	9
G PLACEMENT	1	2	2	3	1	1	1	2	2	1	1	2
H EVALUATING	8	8	7	8	8	6	8	7	8	6	9	9
I INSPECTING AND INVESTIGATING	2	1	1	3	1	2	3	2	4	2	2	2
J PLANNING	7	12	11	9	10	9	8	9	7	5	11	7
K ORGANIZING AND DIRECTING	10	10	9	9	9	8	8	9	9	10	9	11
L CONTROLLING	8	12	11	11	12	12	10	10	10	8	9	7
M REQUESTING RESOURCES	2	3	3	3	5	2	3	3	2	1	2	3
N REPRESENTING	2	2	3	2	2	2	2	3	2	2	4	3

TABLE 10
LMC TASK PERFORMANCE DIFFERENCES
BETWEEN SUPERVISORY AND NONSUPERVISORY GROUPS

TASKS	PERCENT MEMBERS PERFORMING		
	SUPVRS	NONSUPVRS	PERCENT DIFF
EVALUATE MILITARY PERSONNEL ON FACTORS, SUCH AS JOB PERFORMANCE OR PROFESSIONAL QUALITIES	80	17	63
DRAFT OR WRITE AIRMAN PERFORMANCE REPORTS (APR) OR SUGGESTED INDORSEMENTS	72	10	62
CONDUCT STAFF MEETINGS OF PERSONNEL SUPERVISED	77	15	62
REVIEW, EDIT, OR INDORSE APRs	70	9	61
RECOMMEND OR APPROVE SELECTION OF PERSONNEL FOR OPPORTUNITIES, SUCH AS SCHOOLS, ASSIGNMENTS, OR CONFERENCES	71	12	59
COUNSEL OR ADVISE MILITARY PERSONNEL ON CAREER PROGRESSION OR DEVELOPMENT	79	22	57
COUNSEL OR ADVISE MILITARY PERSONNEL ON JOB OR TRAINING PERFORMANCE	79	22	57
INITIATE RECOMMENDATIONS FOR MILITARY PERFORMANCE AWARDS	69	12	57
DELEGATE AUTHORITY TO PERSONNEL FOR TASK ACCOMPLISHMENT	85	29	56
MONITOR PROGRESS OF PERSONNEL WHO HAVE BEEN COUNSELED OR ADVISED	70	15	55
WRITE OR INDORSE LETTERS OR MEMOS RECOGNIZING ACCOMPLISHMENTS OR PERFORMANCE	77	24	53
ASSIGN RESPONSIBILITY FOR TASK ACCOMPLISHMENT TO PERSONNEL	80	27	53
COUNSEL OR ADVISE MILITARY PERSONNEL ON FAILURE TO MAINTAIN PROFESSIONAL STANDARDS, SUCH AS APPEARANCE	74	22	52
TAKE DIRECT ACTIONS TO RESOLVE SUBORDINATES' PROBLEMS, SUCH AS REARRANGING SCHEDULES OR FILLING IN ON THEIR DUTIES	68	17	51
DEFINE OR EXPLAIN STANDARDS, SUCH AS APPEARANCE, JOB PERFORMANCE, OR BEHAVIOR EXPECTED OF SUBORDINATES	67	16	51
TAKE ACTIONS TO MAINTAIN AWARENESS OF PERSONAL OR FAMILY SITUATION, OR QUALITY OF LIFE OF SUBORDINATES	67	17	50
ANALYZE SUBORDINATES' PERSONAL PROBLEMS	68	18	50
SOLICIT JOB-RELATED IDEAS, SUGGESTIONS, OR FEEDBACK FROM SUBORDINATES	84	35	49
DRAFT OR WRITE RECOMMENDATIONS FOR MILITARY AWARDS OR DECORATIONS	73	23	50
MONITOR MANNING STATUS	61	12	49
EVALUATE USE OF PERSONNEL	65	16	49
SCHEDULE PERSONNEL; FOR EXAMPLE, WORK, LEAVES, TDYS, OR TRAINING SCHEDULES	65	16	49
LISTEN TO OR ACT AS SOUNDING BOARD FOR UNSOLICITED IDEAS FROM SUBORDINATES	85	36	49
:	:	:	:

TABLE 11

RELATIVE PERCENT TIME SPENT ON LMC DUTIES BY RANK

DUTY	RELATIVE PERCENT TIME BY RANK				
	LT	CAPT	MAJ	LTC	COL
A COMMUNICATING	31	31	30	30	26
B COUNSELING	2	3	2	3	3
C MAINTAINING DISCIPLINE	2	2	1	2	3
D MOTIVATING	12	12	11	12	13
E MAINTAINING MORALE, HEALTH, AND WELFARE	3	3	3	3	3
F TRAINING	9	8	6	4	3
G PLACEMENT	1	1	2	2	4
H EVALUATING	8	8	7	7	8
I INSPECTING AND INVESTIGATING	2	2	2	2	2
J PLANNING	7	8	10	10	9
K ORGANIZING AND DIRECTING	9	10	10	10	9
L CONTROLLING	9	9	11	11	11
M REQUESTING RESOURCES	2	2	3	3	3
N REPRESENTING	3	2	2	2	3

* Columns may not equal 100 due to rounding

ANALYSIS OF EDUCATION EMPHASIS

Data concerning perceptions of the relative amount of education emphasis which should be required for the LMC tasks in the Task List were collected from 316 officers in ranks lieutenant through colonel. Individuals completing an Education Emphasis booklet were asked to rate tasks on a 10-point scale (from no training required to extremely high training required). These data were then analyzed as a group and as subgroups by rank.

Analysis of the ratings for the total group showed that the reliability of individual raters was much below the standard used by USAFOMC. That unacceptable reliability necessitated further analyses of ratings by officers of similar rank. These analyses, too, showed unacceptable levels of reliability.

In an effort to increase the overall reliability, raters with greatly differing education emphasis ratings were eliminated from the sample. In doing so, however, reliability of ratings was not increased to an acceptable level; further, the number of raters per group decreased to the point leaving too few raters to yield meaningful results. Table 12 displays this information.

In short, insufficient agreement exists among officers in general and even between officers of the same rank across utilization fields for meaningful analysis of education emphasis needs for officer LMC tasks. This finding re-emphasizes the diversity of opinions and perceived needs concerning officer PME seen throughout this study.

TABLE 12

EDUCATION EMPHASIS RELIABILITY DATA

	FIRST COMPUTATION			FINAL COMPUTATION		
	R_{11}^*	R_{kk}^{**}	N^{***}	R_{11}	R_{kk}	N
TOTAL EDUCATION EMPHASIS RATERS	.07	.96	316	.12	.97	198
LIEUTENANTS	.05	.85	100	.13	.88	49
SECOND LIEUTENANTS	.05	.68	39	.16	.75	16
FIRST LIEUTENANTS	.05	.77	61	.11	.79	29
CAPTAINS	.08	.82	52	.16	.83	25
MAJORS	.08	.81	50	.13	.81	29
LIEUTENANT COLONELS	.09	.84	53	.12	.85	40
COLONELS	.09	.85	59	.14	.88	42

* R_{11} = RELIABILITY FOR A SINGLE RATER; ACCEPTABLE IS .20

** R_{kk} = RELIABILITY FOR THE AVERAGE NUMBER OF RATERS PER TASK;
ACCEPTABLE IS .90

*** N = NUMBER OF RATERS

ANALYSIS OF TASK DIFFICULTY

A knowledge of the relative difficulty of tasks performed by personnel can often be helpful in determining the need, the method, and the amount of instruction for those tasks. As discussed earlier, difficulty was defined as "the amount of time needed to learn to do each task satisfactorily." Data concerning perceptions of the relative difficulty of the LMC tasks in the Task List were collected from 312 officers in all ranks, who were asked to rate tasks on a 9-point scale, also discussed earlier. The reliabilities of individual raters (.30) and of raters as a group (.99) suggested very high agreement among raters. Ratings were adjusted so tasks of average difficulty have ratings of 5.00. The resulting data were essentially a rank-ordering of tasks indicating the degree of difficulty for each LMC task in the Task List.

Of the 347 tasks, 56 received high difficulty ratings (above 6.00) by the overall group of raters. Of the 20 tasks rated as the most difficult, shown in Table 13, 12 are communicating tasks (Duty A) and most of those concerned drafting or writing relatively high-level documents, such as OERs, plans, staff papers, and reports. Other highly rated tasks involved skills such as determining resources; administering disciplinary actions to civilians; and ordering, persuading, or influencing those superior in rank or position. All but 3 of these 20 tasks were performed by fewer than 30 percent of the total sample of Task List respondents.

Of the total tasks, 58 received low difficulty ratings (below 4.00) by the overall group of raters. Of the 20 tasks rated as the least difficult, shown in Table 14, most dealt with communicating (Duty A) and motivating (Duty D). The communicating tasks involve relatively low-level activities, such as drafting or writing short note replies and reading professional publications. Other tasks include providing informal feedback, attending training sessions, and maintaining appearance standards. Unlike the highest rated tasks, all but two of these tasks are performed by at least 30 percent of the total sample of respondents.

TABLE 13
LMC TASKS WITH HIGHEST DIFFICULTY RATINGS

TASKS	TD RATING
DRAFT OR WRITE TESTIMONY FOR GOVERNMENTAL PROCEEDINGS, SUCH AS CONGRESSIONAL OR PRESIDENTIAL COMMISSION HEARINGS	8.26
DRAFT OR WRITE FORMAL JOINT CHIEFS OF STAFF PAPERS	7.97
ASSEMBLE BACKUP MATERIAL FOR GOVERNMENTAL PROCEEDINGS, SUCH AS CONGRESSIONAL OR PRESIDENTIAL COMMISSION HEARINGS	7.66
ISSUE DIRECT ORDERS TO THOSE SUPERIOR IN RANK OR POSITION TO ACCOMPLISH TASK	7.41
WRITE TECHNICAL OR RESEARCH REPORTS	7.27
CHAIR OR PRESIDE OVER INVESTIGATIVE OR TECHNICAL BOARDS, SUCH A MISHAP OR ACCIDENT INVESTIGATIONS	7.08
WRITE ARTICLES FOR PROFESSIONAL PUBLICATIONS, SUCH AS BOOKS OR JOURNALS	7.06
CONDUCT INVESTIGATIONS IN RESPONSE TO CONGRESSIONAL OR PRESIDENTIAL INQUIRIES	6.91
CONSULT WITH UNION REPRESENTATIVES ON POTENTIAL CHANGES IN WORK CONDITIONS, PROCEDURES, OR JOB REQUIREMENTS	6.78
DRAFT OR WRITE PLANS, EXERCISES, OR MOVEMENT PLANS	6.63
DRAFT OR WRITE OFFICER EFFECTIVENESS REPORTS (OER) OR SUGGESTED INDORSEMENTS	6.63
DETERMINE RESOURCES, SUCH AS FUNDS, FACILITIES, PERSONNEL, OR EQUIPMENT REQUIRED FOR FUTURE OR LONG-TERM ACTIVITIES	6.62
RESPOND OR DRAFT REPLIES TO OFFICIAL HIGH LEVEL INQUIRIES, SUCH AS CONGRESSIONAL OR PRESIDENTIAL INQUIRIES	6.58
ADMINISTER DISCIPLINARY ACTIONS TO CIVILIANS; FOR EXAMPLE, VERBAL REPRIMANDS, SUSPENSION, OR TERMINATION	6.54
DRAFT OR WRITE STAFF STUDIES	6.52
USE POWER OF POSITION TO INFLUENCE THOSE SUPERIOR IN RANK OR POSITION TO ACCOMPLISH TASKS	6.46
DEVELOP, REVISE, OR DRAFT CIVILIAN PERFORMANCE STANDARDS	6.46
DIRECT, CONTROL, OR SUPERVISE MOBILITY OR CRISES FUNCTIONS, SUCH AS COMMAND POST OR BATTLE STAFF AUGMENTATION	6.46
DRAFT OR WRITE REPORTS OF INVESTIGATIONS; FOR EXAMPLE, INVESTIGATIONS OF SAFETY, SECURITY, OR OTHER INCIDENTS	6.45
PERSUADE THOSE SUPERIOR IN RANK OR POSITION TO ACCOMPLISH TASKS	6.41

TABLE 14
LMC TASKS WITH LOWEST DIFFICULTY RATINGS

TASKS	TD RATINGS
LISTEN TO OR ACT AS SOUNDING BOARD FOR UNSOLICITED IDEAS FROM SUBORDINATES	3.32
PROVIDE INDIVIDUALS WITH INFORMAL POSITIVE FEEDBACK	3.30
SCREEN INCOMING CORRESPONDENCE TO DETERMINE APPROPRIATE ROUTING	3.29
DRAFT OR WRITE MEMORANDA FOR RECORDS (MFRs)	3.28
READ DIRECTIVE PUBLICATIONS, SUCH AS OPERATING INSTRUCTIONS, REGULATIONS, TECHNICAL ORDERS, OR CHECKLISTS	3.26
MONITOR PHYSICAL WORKING CONDITION TO ENSURE SAFETY OF SUBORDINATES	3.22
PROVIDE SECTION OR UNIT WITH INFORMAL POSITIVE FEEDBACK	3.22
PUBLICIZE OR PROMOTE OPPORTUNITIES FOR SELF-IMPROVEMENT; FOR EXAMPLE, OFF-DUTY EDUCATION OPPORTUNITIES	3.19
INSPECT BARRACKS OR DORMITORIES	3.12
MAKE INFORMATION VISIBILITY VISITS TO SUBORDINATE UNITS OR SECTIONS FOR MOTIVATIONAL PURPOSES	3.09
PARTICIPATE IN MILITARY FORMATIONS, SUCH AS PARADES, RETREATS, OR INSPECTIONS	2.96
READ PROFESSIONAL PUBLICATIONS, SUCH AS BOOKS OR ARTICLES	2.88
PARTICIPATE IN UNIT OR SECTION STAFF MEETINGS	2.78
LOCATE APPROPRIATE DIRECTIVE PUBLICATIONS, SUCH AS REGULATIONS OR MANUALS	2.76
DRAFT OR WRITE SHORT NOTE REPLIES	2.75
REVIEW OR CERTIFY TIME ACCOUNTING FORMS OR CARDS	2.70
PARTICIPATE IN OR ATTEND MORALE-BUILDING ACTIVITIES, SUCH AS SOCIAL, RECREATIONAL, OR ORIENTATION PROGRAMS	2.69
ATTEND SCHEDULED TRAINING SESSIONS TO MEET GENERAL MILITARY REQUIREMENTS, SUCH AS OPSEC OR HUMAN RELATIONS TRAINING	2.67
TAKE ACTIONS TO MAINTAIN OWN APPEARANCE STANDARDS, SUCH AS KEEPING PHYSICALLY FIT OR GETTING HAIRCUTS	2.53
READ INCOMING OR OUTGOING CORRESPONDENCE, SUCH AS LETTERS, MEMOS, REPORTS, OR MESSAGES	2.49

ANALYSIS OF NEED FOR PME CURRICULUM TOPICS

In addition to the LMC task involvement data, data concerning officers' self-perceived needs for PME curriculum topics in their jobs and careers were collected and analyzed. As discussed in the INTRODUCTION, two job inventories were used to collect these data. Respondents were asked to rate the extent to which knowledge of or skill in each topic was necessary to perform their present job or to function as a professional career officer, respectively. Each group of data was analyzed separately.

Curriculum Topics I

The need-in-job data, based on ratings given the curriculum topics by 4,100 raters, provided a rank ordering of the topics from that perceived as most needed (ranked number 1) to that least needed (ranked number 275). These data were analyzed across various subgroups, as was done when analyzing LMC task involvement, and correlations of rankings between related subgroups were computed. Inventory order comparisons of rankings across these subgroups are provided in the analysis extract; the rank order correlations are displayed in Appendix B.

Correlations among officer ranks were high, with adjacent rank groups, not surprisingly, showing the highest correlations. The greatest difference was between lieutenants and colonels, and even there the correlation was a high .91. The correlation between majors and lieutenant colonels was a very high .99. None of these findings was particularly surprising considering task performance by these ranks discussed earlier. Differences and similarities in rank ordering of topics were also consistent with task performance by rank. Topics covering communicative skills (such as active writing, effective listening, logical thinking, and time management), command and management, and professionalism were higher in priority across all ranks; military- and defense-related topics generally were of lower priority. Most variations were obvious and logical: the "personal financial planning" topic was considered less essential the higher the rank; the topic "conference planning and running" was considered more essential the higher the rank; the topic on "security of classified materials" was most important to lieutenants; and, as a rule, more senior officers saw less need for topics on "fraternization, sexual harassment, and career development." In short, according to the rank order of topics, officers agreed they had greater need in their jobs for the PME topics relating to communicative skills and lesser need for defense, military, and national security topics, and differed on their need for topics relating to professionalism.

Correlations of rankings across utilization fields varied greatly. The worst correlations were between cartography-geodesy-intelligence personnel and most other fields; their highest correlation was .77 (with operations), while 9 of the 10 others remained between .20 and .50. Specific topics related to the intelligence gathering, analysis, and reporting functions accounted for this disparity. There were particularly high correlations (.90 or above) among support fields, such as information systems, logistics, civil engineering, comptroller, and personnel resources. Medical personnel correlated

highly with civil engineering, logistics, personnel resources, chaplains, and legal personnel on the rank order of topics. Operations, scientific-engineering, and SP-OSI personnel had average correlations.

In terms of the differences in individual topics rankings, many of those ranked high by certain fields related directly to the primary jobs of those officers. Examples of these were numerous. Cartography-geodesy-intelligence had a much higher need for military and national security topics, with operations personnel also suggesting some need, while that need for others was quite low. Scientific-engineering personnel had much less need on fraternization but much higher need on weapon systems acquisition. The greatest need on computer-related topics was voiced by scientific-engineering and information systems personnel. Legal and SP-OSI personnel perceived greater needs than the other fields for topics covering the military justice system. Civil engineering personnel had greater relative needs in energy management. While many of these are not surprising, they do point again to the diversity of perceived PME needs, based on the officers' utilization field.

The correlation of the perception of need-in-job of PME topics was very high between officers commissioned through OTS-OCS and ROTC programs (.99), while much lower (.75) between service academy graduates and direct commission personnel. Correlations of other comparisons between commissioning sources fell between these. High need was perceived by all sources for such topics as effective listening, logical thinking, and time management. While direct commission personnel had less need for active writing, organizing to communicate, and editing techniques, they expressed greater need for topics on human relations, interpersonal communication processes, counseling, and prevention and reduction of executive stress. Academy graduates usually showed greater need for topics related to military employment and national security.

Curriculum planners should be aware of the great amount of diversity in officers' perceptions of their needs within the same subgroup. Agreement by raters within subgroups to a level usually considered satisfactory by USAFOMC was not achieved across the total sample, the rank groups, or three of the four commissioning source groups (direct commissioning officers did achieve satisfactory agreement). Of the utilization field groups, the following achieved a satisfactory level of agreement: information systems, logistics, civil engineering, comptroller, personnel resource, legal, chaplains, and medical. These data suggest that where there is agreement on what topics are pertinent to the job, it is a factor of the utilization fields or types of fields. While keeping in mind this diversity, planners can feel confident in basing their decisions on the relative positions of topics within rank and utilization field. One can assume, for example, that topics with the higher priority (or lower rank order ratings) should receive substantial consideration for emphasis in the corresponding PME phases; conversely, one can assume that topics with the lower priority (or higher rank order ratings) should receive less emphasis.

Curriculum Topics II

The need-in-career data, based on ratings given the curriculum topics by 3,863 raters, also provided a rank ordering of the topics, and these data were

analyzed similar to those from Topics I. Inventory order comparisons of rankings across the subgroups are provided in the analysis extract; rank correlations of rankings are displayed in Appendix C.

As was the case when officers rated their need-in-job, the correlations were highest between adjacent rank groups on need-in-career. Again, lowest correlation was between lieutenants' and colonels' perceptions (.87), and highest was between majors' and lieutenant colonels' perceptions (.98). Topics rated as having a relatively greater or lesser need-in-career were generally the same as for need-in-job. Some specific communicative skill topics were ranked lower in need by lieutenants when looking at the job, but higher when looking at the career; this reflected a generally accurate perception, judging from the colonels' relatively equal ranking of those same topics. General command and management topics received relatively lower rankings in terms of need-in-career, while slightly higher rankings were seen in military employment and national security topics, compared to those topics' perceived need-in-job.

Correlations among utilization fields followed the same pattern they did for Topics I; although correlations in Topics II were slightly lower, correlations between operations and other fields were slightly higher. Again, cartography-geodesy-intelligence had extremely low correlations (.20 to .50) with 9 of 11 fields; high correlations on rankings were achieved between scientific-engineering and information systems personnel; logistics, civil engineering, and personnel resources; and chaplains and medical personnel. Most differences in rankings across fields, again, reflect the unique roles of officers in those fields, and are consistent with task performance across utilization fields.

Officers commissioned through OTS/OCS and ROTC had very high correlation (.99) in their rankings of topics, while direct commission officers and academy graduates had very low correlations (.60). In Topics I, correlations were nearly equal for OTS-OCS or ROTC graduates when compared to either direct commissioned officers or academy graduates; in looking at rank orders based on need-in-career, however, much higher correlation is seen between OTS-OCS or ROTC, and academy graduates (.91), than between OTS-OCS or ROTC and direct commission personnel (.77). Some differences in direct commission officers and others is a greater perceived need-in-career for general command and management topics; a slightly greater perceived need for topics on professionalism; and a lesser need for military employment topics. Other examples of topics in which great differences were perceived between one group and the other included: academy graduates perceived far less need for topics on sexual harassment (ranked 201), while others ranked it higher (all below 100); and direct commission officers perceived far greater need for topics on disaster control (ranked 23), while others ranked it lower (all above 150).

As with Topics I, when using Topics II data, curriculum planners should be aware of the great amount of diversity in officers' perceptions of their needs within the same subgroups. Agreement by raters within subgroups to a level usually considered satisfactory by USAFOMC was achieved by only one group of raters (chaplains). While accepting the diversity of self-perceived needs (which the lack of agreement suggests), planners can feel confident in basing their decisions on the relative positions of topics within the groups and

subgroups discussed. In other words, topics with higher priority (lower rank order ratings) should receive substantial consideration for emphasis in corresponding PME phases and topics with lower priority (higher rank order ratings) should receive less emphasis.

Summary

Analysis of officers' self-perceived need of various PME topics in their jobs and in their careers showed a great deal of diversity within most of the groups and subgroups discussed. In spite of this diversity, it was possible to create a rank order listing of topics from each of these groups displaying the relative need of these topics in the job or in the career. The relative positions of topics can provide curriculum planners with data on which PME topics better meeting officers' expressed needs might be based. Rank order correlations between subgroups were all positive and most were quite high, showing substantial agreement on what officers perceived as topics of greatest and least need to them. Some differences in rank order of topics were seen across subgroups within rank, utilization field, and commissioning source groups.

ANALYSIS OF BACKGROUND DATA

As mentioned in the INTRODUCTION, background data were collected from each respondent to the job inventories. These data, which included 53 questions on the respondents' educational and military background, work environment, job satisfaction, and perception of PME benefits, were used to test the representativeness of the samples, to provide a profile of Air Force officers surveyed, to assist in the Task List and Curriculum Topics analyses, and to assess the respondents' subjective input on their jobs and PME.

Of the 10,607 responses to the 5 parts of the project, 10,177 were used in assessing background data responses. The difference here reflects the elimination of duplicate responses of officers who were asked to complete more than one kind of survey booklet, since background questions across booklets were identical.

Profile of Response

The distribution of the total sample of officers across paygrades and MAJCOMs closely reflected the distribution of Air Force officers as a whole. Selected background and job satisfaction data for the total sample and across ranks are provided in Tables 15 and 16.

Given the representative nature of this project's sample to the population as a whole, two findings were of interest as the population was viewed across time. Percentages of female officers and nonrated officers fell consistently and drastically from lieutenant to colonel. While a host of historical and sociological explanations may be offered to account for these findings, one cannot conclude from the data alone what trends will develop or what trends will continue as the lower end of the rank structure advances in the force.

Job satisfaction indicators were quite high in all ranks. Lowest job satisfaction (particularly a higher dissatisfaction with a sense of accomplishment) was stated by those officers planning to separate prior to retirement. Likewise, the highest job satisfaction indicators were for those officers planning to stay until mandatory retirement. Job satisfaction indicators were also high across all utilization fields and commissioning sources, with direct commission fields and that group as a whole showing high percentages of positive responses in all areas, particularly chaplains.

TABLE 15

SELECTED BACKGROUND DATA BY RANK

		RANKS				
TOTAL SAMPLE		LT	CAPT	MAJ	LT COL	COL
NUMBER IN GROUP		2,593	3,290	1,899	1,453	929
PERCENT OF SAMPLE		26%	32%	19%	14%	9%
SEX: MALE		78%	88%	95%	97%	98%
FEMALE		22%	12%	5%	3%	1%
AVERAGE TIME IN PRESENT JOB (MOS)		16	19	19	21	20
AVERAGE TICF (MOS)		26	58	101	123	122
AVERAGE TAFMS (MOS)		61	111	183	227	277
AVERAGE TIME PRIOR SERVICE (MOS)		77	70	37	30	32
RECENT PRIOR SERVICE		36%	30%	20%	20%	24%
COMMISSIONING SOURCE:						
ROTC		41%	38%	40%	45%	49%
OTS-OCS		36%	35%	41%	32%	12%
ACADEMIES		10%	13%	8%	10%	10%
DIRECT		9%	10%	9%	10%	15%

TABLE 15 (CONTINUED)
SELECTED BACKGROUND DATA BY RANK (CONTINUED)

	TOTAL SAMPLE	RANKS				
		LT	CAPT	MAJ	LT COL	COL
AERONAUTICAL RATING:						
PILOT	23%	11%	22%	28%	28%	39%
NAVIGATOR	9%	7%	8%	11%	13%	15%
NONRATED AIRCREW	2%	2%	2%	2%	1%	1%
NONRATED	64%	79%	66%	57%	56%	40%
OTHER	2%	1%	2%	2%	3%	5%
PME COURSE COMPLETION (PERCENT RESPONDING YES):						
ANY PME COURSE, ANY METHOD	66	21	67	92	93	93
SOS (CORRESPONDENCE)	41	12	47	59	52	42
SOS (RESIDENCE)	34	3	39	50	44	45
ACSC (CORRESPONDENCE)	23	-	9	50	51	31
ACSC (SEMINAR)	14	-	14	29	22	10
ACSC (RESIDENCE)	7	-	-	9	18	23
OTHER INTERMEDIATE SERVICE SCHOOL	4	-	1	4	11	13
AWC (CORRESPONDENCE)	1	-	-	3	8	10
AWC (SEMINAR)	4	-	-	6	15	18
AWC (RESIDENCE)	1	-	-	-	2	21
ICAF/NSM (CORRESPONDENCE)	14	-	-	16	12	56
ICAF/NSM (RESIDENCE)	1	-	-	-	1	7
OTHER SENIOR SERVICE SCHOOL	1	-	-	1	1	10

TABLE 16

JOB SATISFACTION INDICATORS BY RANK
(PERCENT RESPONDING)*

	TOTAL SAMPLE	RANKS			
		LT	CAPT	MAJ	LT COL COL
EXPRESSED JOB INTEREST:					
DULL	6	8	6	4	4 3
SO-SO	6	7	6	5	4 3
INTERESTING	88	85	88	90	92 93
PERCEIVED USE OF TALENTS:					
LITTLE OR NOT AT ALL	11	17	11	8	7 4
FAIRLY WELL TO PERFECTLY	89	82	89	92	93 95
SENSE OF ACCOMPLISHMENT:					
DISSATISFIED	14	16	16	14	12 8
AMBIVALENT	4	5	3	3	3 2
SATISFIED	82	78	81	82	85 89
CAREER INTENTIONS:					
SEPARATE PRIOR TO RETIREMENT	3	6	5	1	- 2
PROBABLY LEAVE BEFORE RETIREMENT	7	16	8	1	1 3
PROBABLY STAY FOR RETIREMENT	16	33	19	4	3 2
RETIRE AT EARLIEST ELIGIBILITY	12	7	14	21	11 2
RETIRE AFTER ELIGIBILITY, PRIOR TO MANDATORY	39	20	32	50	63 51
RETIRE WHEN MANDATORY	23	18	22	22	22 41

* Columns may not equal 100 percent due to nonresponse or rounding

Perception of Benefits from PME

Included in the background items of each job inventory booklet was a series of questions designed to measure the benefit of pre- and postcommissioning PME courses to officers responding. Using the 9-point scale below, respondents were asked to indicate the extent to which the programs benefited them in their job performance as Air Force officers.

- 1 None
- 2 To a minimal extent
- 3 To a very small extent
- 4 To a small extent
- 5 To a moderate extent
- 6 To a large extent
- 7 To a very large extent
- 8 To a maximal extent
- 9 Not applicable

To aid in the analysis of this data, responses were grouped into three categories according to the extent of benefit: small (minimal, very small, or small extent), moderate, or large (large, very large, or maximal extent). Comparisons were made based on the percentage of people completing a PME course who indicated the degree to which they benefited from that course.

Precommissioning PME courses varied in benefit, depending on the course. Those who participated in USAF Academy PME indicated the highest degree of benefit, with over 70 percent of the officers overall and by rank who had completed that program indicating it was beneficial to a large extent. The extent of benefit from ROTC and OTS-OCS PME was much lower, with only 39 percent and 48 percent, respectively, indicating a large benefit (see Table 17).

Postcommissioning PME courses also varied in the extent of benefits perceived by officers, depending on several factors. First, the data show a much greater perception of benefit from residence courses at all levels (junior, intermediate, and senior) than for correspondence courses at the same levels. Nonresidence seminar courses show a degree of benefit higher than for correspondence courses, but still lower than for residence courses. Data showed the completion of SOS by correspondence to be of smallest benefit to officers overall and by rank.

Second, the data indicate the perceived benefits of intermediate and senior service residence programs increase with rank, while the benefits of these courses by correspondence or seminar decrease or remain the same as rank increases. For example, colonels consistently reported higher benefits from these residence courses than did those of lower rank. These data might be useful to program managers as they attempt to plan the most effective point in an officer's career for particular methods of PME to be undertaken. Table 18 displays these data.

TABLE 17

EXTENT BENEFITED BY PRECOMMISSIONING PME COURSES BY RANK
(PERCENTAGES OF THOSE COMPLETING COURSES)

	TOTAL SAMPLE	RANKS				
		<u>LT</u>	<u>CAPT</u>	<u>MAJ</u>	<u>LT COL</u>	<u>COL</u>
AFROTC						
SMALL	29	24	32	34	31	21
MODERATE	32	32	34	32	27	33
LARGE	39	44	34	34	42	46
USAF ACADEMY						
SMALL	9	8	8	11	11	9
MODERATE	20	17	20	18	17	8
LARGE	71	75	72	71	72	83
OTS-OCS						
SMALL	21	16	24	21	20	18
MODERATE	31	24	30	33	34	31
LARGE	48	60	46	46	46	51

TABLE 18

**EXTENT BENEFITED BY POSTCOMMISSIONING PME COURSES BY RANK
(PERCENTAGES OF THOSE COMPLETING COURSES)**

	<u>TOTAL SAMPLE</u>	<u>RANKS</u>				
		<u>LT</u>	<u>CAPT</u>	<u>MAJ</u>	<u>LT COL</u>	<u>COL</u>
SOS (CORRESPONDENCE)						
SMALL	62	46	67	66	69	60
MODERATE	27	32	27	25	24	31
LARGE	11	22	11	9	7	9
SOS (RESIDENCE)						
SMALL	25	22	23	31	28	18
MODERATE	32	22	31	32	33	35
LARGE	43	56	46	37	39	47
ACSC (CORRESPONDENCE)						
SMALL	52	-	39	54	56	47
MODERATE	30	-	34	29	29	37
LARGE	18	-	27	17	15	16
ACSC (SEMINAR)						
SMALL	32	-	26	35	39	38
MODERATE	34	-	36	32	33	29
LARGE	34	-	38	33	28	33
ACSC (RESIDENCE)						
SMALL	13	-	-	14	18	9
MODERATE	24	-	-	29	26	18
LARGE	63	-	-	57	56	73
OTHER INTERMEDIATE SERVICE SCHOOLS						
SMALL	26	-	42	31	22	14
MODERATE	24	-	32	21	26	22
LARGE	50	-	26	48	52	64
AWC (CORRESPONDENCE)						
SMALL	32	-	-	33	34	30
MODERATE	36	-	-	28	39	39
LARGE	32	-	-	39	27	31

TABLE 18 (CONTINUED)

**EXTENT BENEFITED BY POSTCOMMISSIONING PME COURSES BY RANK
(PERCENTAGES OF THOSE COMPLETING COURSES)**

	TOTAL SAMPLE	RANKS				
		LT	CAPT	MAJ	LT COL	COL
AWC (SEMINAR)						
SMALL	32	-	-	34	33	29
MODERATE	30	-	-	28	31	32
LARGE	38	-	-	38	36	39
AWC (RESIDENCE)						
SMALL	16	-	-	-	26	11
MODERATE	16	-	-	-	11	19
LARGE	68	-	-	-	63	70
ICAF-NSM (CORRESPONDENCE)						
SMALL	39	-	-	40	46	37
MODERATE	30	-	-	28	27	31
LARGE	31	-	-	32	27	32
ICAF-NSM (SEMINAR)						
SMALL	17	-	-	21	40	50
MODERATE	33	-	-	41	20	25
LARGE	50	-	-	38	40	25
ICAF-NSM (RESIDENCE)						
SMALL	*	-	-	-	20	2
MODERATE	14	-	-	-	20	8
LARGE	86	-	-	-	60	90
OTHER SENIOR SERVICE SCHOOLS						
SMALL	*	-	-	42	4	4
MODERATE	16	-	-	29	13	6
LARGE	84	-	-	29	83	90

Small - Minimal, very small, or small extent

Moderate - Moderate extent

Large - Large, very large, or maximal extent

* Represents less than .5 percent

Write-in Comments

Survey respondents were also encouraged to write comments about their PME needs and perceptions, critique the survey itself, clarify their responses to survey questions, and add other information helpful in evaluating officer PME. In these surveys, 312 officers (3 percent of the total returns) used the write-in option to convey some type of information.

Approximately half of the comments were to clarify responses listed as "other" in the background sections of the inventories. Twenty-five criticized the survey instruments, with 20 comments that the booklets were too lengthy; several of those included:

Too damned long! boring! irrelevant! This is a classic example of fraud, waste and abuse.

Your task list is too long and duplicative - losses (sic) its meaning as a result.

What a worthless survey to give to a squadron level, captain fighter pilot!

Please do not send me anymore of this type surveys (sic). To me these things are a waste. If you want ans. to questions why not come interview people

Too long! - But good.

Instructions for final several pages did not make any sence (sic) to me. I suppose that some one knows what you meant but if so, I'm not sure how.

A number of write-comments dealt with topics to be added to PME courses or which should receive greater emphasis in PME. Some of the suggestions were contradictory. For example, a number of people requested more emphasis on international relations and current affairs, while others felt that type of information should be gained from the news rather than PME. Some believed the Air Force was "trying to make all of our officers experts in too many different areas through PME," and that "PME courses given should be more oriented around everyday life as an Air Force Officer;" one Air Staff officer wrote, "So why don't you guys climb down of (sic) this acadademic (sic) kick...stop trying to make us all negotiators (sic) in the arms race....I realize that this might be construed as a somewhat 'narrow' point-of-view, but...I have seen nothing serve (sic) an officer or the Air Force as well as an officer who knows reality rather than theory and real capabilities learned from experience." Others disagreed, feeling "there was too much emphasis placed on the 'job,' which smacks of occupationalism, as opposed to the overall profession....(a)s a professional officer, I consider the (wide variety of) topics important to my overall development."

Most of the comments concerning topics, however, were consistent. The most frequently mentioned topics were various communication skills, leadership training, and computer familiarization, which write-in respondents felt should receive increased emphasis. Some felt the scope of the communication studies should emphasize those uniquely-military skills, and not simply rehash elementary or college English; one officer stated, "I realize that a large percentage of college graduates today can barely read or write but SOS certainly isn't the place to try and change that, particularly where it bores the people that were motivated to take SOS and thought we were going to see some new material." Studies on leadership were stressed, with emphasis on the practical, how-to, rather than on "academic theories of leadership and motivation;" another comment called for "less stress on studying exotic management styles (and) techniques and more on actual problem-solving." Several officers requested more emphasis on ethics and morality, citing the great need for moral and ethical thought and action in the profession. Additionally, the following were cited as areas in which emphasis should be increased:

- USAF relations with other military services
- military and USAF heritage
- foreign language training
- military law and discipline
- nuclear environment and issues
- role of support officers
- officer wife's social obligations
- medical and health concerns
- balancing USAF and family needs
- enlisted force, roles and policies
- military benefits and career information
- futures of military and USAF

The remainder of the write-in comments fell into one of three categories: those positive on PME, those negative on PME, and those offering constructive suggestions for PME.

Several write-in comments praised the various PME courses. On SOS, one officer wrote, "There were good parts of the course, especially topics directly related to military affairs, career progression, organizations and missions, etc." Others wrote, "the quality of ACSC correspondence course improved 1,000%. Parallels my present job and will aid me in future jobs," and, concerning AWC, "while I have yet to complete, I have already found course material useful."

A number of write-in comments were negative as to the need of PME or the way it is presently conducted. A sampling of some of these responses follows:

Most, if not all, rated and actively flying personnel have no need for PME "knowledge or skill" in performing day-to-day job of flying.

"Sorry, Guys--I have such little use for ACSC and AWC the way they are currently structured and administered that I can't bring myself to wade through more of same in filling out this survey....I have finished Vol II of AWC.

I firmly believe that if we are to continue as the best Air Force in the world, we had better pay more attention to what it takes to make a great Air Force (that is... shooting down more bad guys than we lose and bombing better than they do).

Some info was interesting, most just a rehash and very boring.

Additionally, specific suggestions on how to improve Air Force PME were also received, and include the following:

Consolidate PME. "It's time to consider a two-level system of PME. SOS is about the right time and about the right length. However, ACSC and AWC should be combined."

Keep PME current and eliminate redundancy. "The repetition of information currently provided at Academy/ROTC, SOS, ACSC, AWC is excessive. Twice on any one topic should be more than sufficient."

Provide more variety in the selection of AWC research topics, and place less emphasis on that exercise.

Revise testing. "(At ACSC (resident)) they impose testing...which serves to demotivate the students, who in turn study for the test--short term memory!" "(SOS) test questions seem (more) oriented on who said what than on how things work." "(PME) test questions are made up so that the most obscure/unimportant parts of a general topic are tested." "Why not have papers to write to show knowledge of an area. This shows knowledge every bit as well as tests."

Better integrate PME theory to the real world. "We need to develop this total systems approach if we expect to win our battles...not individual actions as now taught in our PME courses." "It would be very useful to have the articles and topics tied to each other somehow, and also tied to the real lives of CGO's."

"Make PME completion a positive, enriching experience. Create a post-graduate school of the Air Force where PME credit can be applied to a master's degree."

Two write-in comments criticized the choices of articles used in PME. One found the SOS correspondence course material difficult to read and study because of differing writing techniques, and suggested that AU "shop around for articles...(try Readers Digest, Air Force, Aviation Week, etc.)....(which) would make the course more effective." Another objected that "very little subject matter is written by patriots who have U.S. interests in mind. The bulk of the material comes from the 'one world government' camp of the Council on Foreign Relations...."

COMPARISON TO PREVIOUS STUDY

Results of this survey were compared to those of the Officer Professional Military Education Curriculum Validation Project (AFPT 90-000-346) dated August 1980 and the Survey of Air Force Officer Management Activities and Evaluation of Professional Military Education Requirements (AFHRL-TR-69-38) dated December 1969.

While the scope and complexity of PME studies have increased over the years, certain results have been consistent. Analyses of task involvement over time, for example, have shown a consistent increase in the level and number of LMC tasks with every increase in rank. Differences in task performance across utilization fields is also observed across studies; operations personnel, for example, have been consistently lower performers (compared to other fields) at lower ranks, increasing the scope of their LMC responsibilities as they increase in rank to the point of equality with other fields at the grade of colonel.

Task difficulty data (collected in this and the 1980 studies) generally agree on the tasks officers consider most and least difficult. Heading the lists are drafting or writing high-level official correspondence, conducting high-level investigations, and determining resources. Low on both lists are attending training sessions, maintaining personal appearance standards, and drafting or writing low-level correspondence.

The perceptions of need of particular curriculum topics were analyzed differently in this study than that data in the two previous surveys. Two similar findings were evident. First, there was a great amount of diversity within subgroups analyzed as to what PME topics officers perceived they needed. Second, there was a general overall consistency as to what were the most and least needed topics within subgroups. While previous studies used average ratings and this one used a rank order method to assess need, agreements on self-perceived needs across time are striking: topics dealing with oral and written communication, leadership, and principles of management were consistently viewed as among the most needed, while those dealing with Army and Navy doctrine, international relations, and warfare are perceived as least needed.

A comparison of the perception of benefits from the various methods of PME between the two most recent studies shows few differences, as shown in Table 19. Both studies found the perception of benefits from SOS by correspondence to be small, from residence programs to be greater than for correspondence or seminar programs, and from USAF Academy PME to be of greater benefit than ROTC or OTS-OCS PME.

TABLE 19

COMPARISONS OF EXTENT BENEFITED BY PME COURSES ACROSS STUDIES
(PERCENT INDICATING LARGE BENEFIT)

	<u>1980 SURVEY</u>	<u>1984 SURVEY</u>
AFROTC	45	39
USAF ACADEMY	64	71
OTS-OCS	79*	48
	48**	
SOS (CORRESPONDENCE)	9	11
SOS (RESIDENCE)	44	43
ACSC (CORRESPONDENCE)	16	18
ACSC (SEMINAR)	37	34
ACSC (RESIDENCE)	63	63
OTHER INTERMEDIATE SERVICE SCHOOLS	69	50
AWC (CORRESPONDENCE)	38	32
AWC (SEMINAR)	47	38
AWC (RESIDENCE)	65	68
ICAF-NSM (CORRESPONDENCE)	25	31
ICAF-NSM (SEMINAR)	N-D	50
ICAF-NSM (RESIDENCE)	68	86
OTHER SENIOR SERVICE SCHOOLS	74	84

* Percent for OCS

** Percent for OTS

N-D No data

CONCLUSIONS AND IMPLICATIONS

Given an Air Force PME program structured around rank, utilization field, commissioning source, or a combination of these, a number of tools will be of use to curriculum planners of such programs. Data from this project provide a good view of what leadership, management, and communicative tasks officers perform; the relative difficulty of tasks in the judgment of Air Force officers; and rank order listings of curriculum topics which officers perceive they need in their jobs and their careers. Planners are urged to use these data together when assessing the effectiveness of existing programs or developing new curricula to meet the professional military needs of Air Force officers.

Based on the analyses of the LMC task performance data, the PME curriculum topics ratings, and the perceptions of benefits, several conclusions about Air Force officer PME may be drawn.

1. There are differences in the LMC task performance of officers at various ranks, within various utilization fields, and depending on an officer's supervisory status. Data further shows a lack of agreement among officers in many of this study's subgroups as to the PME topics required in their jobs or careers.

2. There is clearly a progression in terms of the number and complexity of LMC tasks performed by officers as they advance in rank.

3. Data collected on officers' perceptions of the benefits of the various PME courses to their jobs indicated a very low benefit from SOS by correspondence, and lower benefits in general from PME by correspondence or seminar than through residence programs. The overall perceptions of benefit are, at best, mixed.

Based on these conclusions, several implications may be drawn.

1. There are differences in the PME needs of Air Force officers.

2. Based on those tasks the majority performs, there is sufficient rationale for the continuation of a multiphased professional program.

3. Given the differences within ranks across utilization fields, it is doubtful a program designed purely on differences in rank can be of equal value to all officers.

4. The success of the PME program should be judged on its usefulness to the most people.

5. While concentrating on the PME-related tasks most officers at any given phase perform, PME must also educate officers as to the need and importance of a broader understanding of military-related topics to their roles as professionals.

APPENDIX A

UTILIZATION FIELD COMPOSITION

	<u>AFSCs</u>
OPERATIONS	10XX-22XX
PILOTS	10XX-14XX
NAVIGATORS	15XX, 22XX
MISSILEERS	18XX
MISCELLANEOUS OPERATIONS	16XX-17XX, 20XX
SCIENTIFIC-ENGINEERING	25XX-29XX
INFORMATION SYSTEMS	30XX, 51XX, 0960
LOGISTICS	31XX-40XX, 60XX-66XX
CIVIL ENGINEERING	55XX
CARTOGRAPHY-GEODESY-INTELLIGENCE	57XX, 80XX
COMPTROLLER	67XX-69XX
PERSONNEL RESOURCES	70XX-79XX, 0900, 0920-0950
SECURITY POLICE (SP) OFFICE OF SPECIAL INVESTIGATIONS (OSI)	81XX-82XX
LEGAL	88XX
CHAPLAINS	89XX
MEDICAL	90XX-99XX

APPENDIX B

CURRICULUM TOPICS I RANK ORDER CORRELATIONS

	<u>LT</u>	<u>CAPT</u>	<u>MAJ</u>	<u>LT COL</u>	<u>COL</u>
LT	1.00	.98	.96	.95	.91
CAPT		1.00	.98	.97	.95
MAJ			1.00	.99	.97
LT COL				1.00	.97
COL					1.00

	<u>DIRECT COMMISSION</u>	<u>OTS/ OCS</u>	<u>ROTC</u>	<u>ACADEMIES</u>
DIRECT COMMISSION	1.00	.90	.90	.75
OTS-OCS		1.00	.99	.90
ROTC			1.00	.91
ACADEMIES				1.00

CURRICULUM TOPICS I RANK ORDER CORRELATIONS (Continued)

	<u>OPS</u>	<u>SCI- ENG</u>	<u>INFO SYS</u>	<u>LOG</u>	<u>CE</u>	<u>CART-GEO- INTEL</u>	<u>COMPT</u>	<u>PERS RES</u>	<u>SP- OSI</u>	<u>LEGAL</u>	<u>CHAP</u>	<u>MED</u>
OPS	1.00	.67	.71	.68	.63	.77	.57	.69	.81	.63	.65	.59
SCI-ENG		1.00	.93	.85	.84	.44	.88	.81	.61	.66	.70	.77
INFO SYS			1.00	.92	.91	.43	.90	.87	.68	.73	.77	.85
LOG				1.00	.96	.36	.94	.95	.77	.83	.87	.93
CE					1.00	.29	.94	.92	.72	.79	.83	.92
CART-GEO- INTEL						1.00	.28	.39	.61	.40	.37	.27
COMPT							1.00	.92	.67	.78	.82	.91
PERS RES								1.00	.80	.91	.92	.94
SP-OSI									1.00	.78	.78	.76
LEGAL										1.00	.89	.84
CHAP											1.00	.90
MED												1.00

APPENDIX C

CURRICULUM TOPICS II RANK ORDER CORRELATIONS

	<u>LT</u>	<u>CAPT</u>	<u>MAJ</u>	<u>LT COL</u>	<u>COL</u>
LT	1.00	.97	.93	.91	.87
CAPT		1.00	.96	.95	.92
MAJ			1.00	.98	.95
LT COL				1.00	.96
COL					1.00

	<u>DIRECT COMMISSION</u>	<u>OTS/ OCS</u>	<u>ROTC</u>	<u>ACADEMIES</u>
DIRECT COMMISSION	1.00	.77	.77	.60
OTS-OCS		1.00	.99	.91
ROTC			1.00	.91
ACADEMIES				1.00

CURRICULUM TOPICS II RANK ORDER CORRELATIONS (Continued)

	<u>OPS</u>	<u>SCI- ENG</u>	<u>INFO SYS</u>	<u>LOG</u>	<u>CE</u>	<u>CART-GEO- INTEL</u>	<u>COMPT</u>	<u>PERS RES</u>	<u>SP- OSI</u>	<u>LEGAL</u>	<u>CHAP</u>	<u>MED</u>
OPS	1.00	.69	.70	.71	.69	.80	.50	.76	.87	.54	.51	.51
SCI-ENG		1.00	.91	.79	.78	.48	.82	.76	.67	.58	.60	.65
INFO SYS			1.00	.87	.86	.45	.86	.83	.74	.67	.70	.71
LOG				1.00	.93	.40	.88	.94	.82	.83	.84	.83
CE					1.00	.40	.86	.90	.81	.78	.79	.79
CART-GEO- INTEL						1.00	.24	.50	.62	.30	.22	.20
COMPT							1.00	.83	.64	.77	.81	.84
PERS RES								1.00	.87	.87	.86	.83
SP-OSI									1.00	.71	.70	.68
LEGAL										1.00	.85	.82
CHAP											1.00	.89
MED												1.00

END

FILMED

12-84

DTIC